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Z-12720/83

CONTROL NO.

NPIC/IEG (JULY 83)

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DISSEMINATION CONTROL ABBREVIATIONS

NOFORN-	Not Releasable to Foreign Nationals
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Page 1 of 2Copy 37Attachment to Z-12720/83
NPIC/IEG
22 JULY 1983MODIFIED TWIN DISH
KOMSOMOLSK, USSR (SWN)

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1. SIGNIFICANCE: A MODIFIED VERSION OF THE STANDARD TWIN DISH TROPOSCATTER RELAY SYSTEM HAS BEEN DEPLOYED IN THE SOVIET FAR EAST. (SWN)
2. REMARKS: ANALYSIS OF THE NEWEST SOVIET TROPOSCATTER RELAY SYSTEM, NPIC INTERIM DESIGNATOR UL-EL-01, INDICATES IT IS A SECOND-GENERATION VERSION OF THE STANDARD TWIN DISH (R-408) SYSTEM WHICH HAS BEEN IN SERVICE SINCE 1960. (SWN)

FIELD TESTING OF THE MODIFIED TWIN DISH WAS CONDUCTED AT ULAN UDE 9TH RVGK SIGNAL BDE AL-3 FROM MID-DECEMBER 1982 UNTIL MARCH 1983. A MODIFIED TWIN DISH STATION IS COMPRISED OF 13 VEHICLES AND TRAILERS RATHER THAN THE EIGHT VEHICLES AND TRAILERS OF THE OLDER SYSTEM (GRAPHIC 1). SINCE MARCH, EIGHT MODIFIED TWIN DISH STATIONS HAVE BEEN STORED IN AN OPEN VEHICLE PARK NEXT TO A TWIN PLATE BATTALION AT KOMSOMOLSK NA AMURE ARMY BKS. (SWN)

BOTH THE NEW AND OLD VERSIONS HAVE TWO 10-METER PARABOLIC DISHES THAT ARE GROUND MOUNTED ON A V-BAR LATTICE MAST WITH TWO LATTICE SUPPORT ARMS. HOWEVER, THERE ARE STRUCTURAL, MOBILE, AND OPERATIONAL DEPLOYMENT DIFFERENCES BETWEEN THE TWO SYSTEMS. FIRST, THE MODIFIED TWIN DISH ANTENNA HAS A SOLID, 5.3-METER CENTER RING WITH A MESH OUTER RING COMPOSED OF 18 SEGMENTS. BY CONTRAST, THE STANDARD TWIN DISH ANTENNA IS COMPLETELY MESH CONSTRUCTED WITH A TWO-RUNG-LADDER-SHAPED DESIGN IN ITS CENTER RING. SECONDLY, THE NEW SYSTEM HAS IMPROVED TRAFFICABILITY SINCE IT USES NEWER AND MORE VERSATILE URAL-375 TRUCKS INSTEAD OF THE ZIL-157 TRUCKS OF THE OLDER SYSTEM. FINALLY, WHEN THE MODIFIED TWIN DISH IS OPERATIONALLY DEPLOYED, ITS VEHICLE LAYOUT PATTERN CLOSELY RESEMBLES THAT OF THE TWIN PLATE STATION (GRAPHIC 2). (SWN)

ANALYST'S COMMENTS -- NSA HAS PROPOSED THIS SYSTEM BE NAMED THE TWIN DISH B. HOWEVER, UNTIL THE OFFICIAL NAME IS DESIGNATED, NPIC REPORTING WILL USE MODIFIED TWIN DISH RATHER THAN UL-EL-01. (SWN)

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Page 2 of 2Copy 37Attachment to Z-12720/83
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ACCORDING TO ONE SOURCE, A NEW MODEL R-408 TWIN DISH WAS USED TO ESTABLISH A COMMUNICATIONS LINE BETWEEN BULGARIA AND ODESSA IN MARCH 1978. THIS MIGHT HAVE BEEN THE FIRST EXPERIMENTAL PHASE OF THE SYSTEM'S DEVELOPMENT. IN ADDITION, THIS SOURCE DESCRIBED VEHICLE COMPONENTS WHICH WERE ALMOST IDENTICAL TO THE MODIFIED TWIN DISH VEHICLES OBSERVED ON IMAGERY. MODIFIED TWIN DISH WILL PROBABLY REPLACE THE OLDER TWIN DISH SYSTEM AND BE USED MUCH LIKE ITS PREDECESSOR. (SWN)

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3. COORDINATES 50-34-35N 136-54-57E (S)
COORDINATES 51-51-09N 107-53-32E (S)

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4. COLLATERAL REFERENCE: DOD. IR 2 218 7668 80, DIFFERENCES BETWEEN R-410M1 and R-410M2 RADIO STATIONS, A NEW R-408 MODEL, AND INFORMATION ON THE R-412, 18 NOVEMBER 1980. (CONFIDENTIAL)

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